

REMARKS

Claims 1-5 are pending. By this Response, claim 5 is amended. Reconsideration and allowance based on the above amendments and following remarks are respectfully requested. The office Action rejects claim 5 under 35 U.S.C. §102(e) as being anticipated by Ishihara, et al. (JP Pub 2000-152259); and claims 1-4 under 35 U.S.C. §103(a) as being unpatentable over Oda (JP 11-275594) in view of Ishihara, et al. and applicant's admitted prior art. (AAPA). These rejections are respectfully traversed.

Claims 1 and 5 each recite, *inter alia*, wherein a plurality of the signal charges which are adjacent to each other are mixed in the horizontal transfer path" while claim 4 recites, *inter alia*, "mixing a plurality of the signal charges which are adjacent to each other, in a horizontal transfer path." The Office Action states that Oda and Ishihara fail to teach this particular feature.

Regarding claim 5, claim 5 has been rejected in view of Ishihara. Therefore, in view of the above amendments to claim 5 and the statement in the Office Action that Ishihara fails to teach this particular feature, withdrawal of the rejection with respect to claim 5 is respectfully requested.

Regarding claims 1 and 4, the Office Action alleges that the above noted feature is taught in applicant's admitted prior art. Applicants respectfully disagree.

In embodiments of the present invention, the adjacent signal charges are read out and mixed such that the horizontal transfer path is a repetition of a red signal component, green signal component, blue signal component and green signal component. A single horizontal transfer path is used and the signals mixed therein in contrast to the teachings of Oda and Ishihara, as recognized in the Office Action.

Further, applicants admitted prior art does not teach the features deficient in Oda and Ishihara. Applicants admitted prior art teaches the use of a honeycomb arrangement of CCD's. Signal charges are shifted from the photoelectric conversion elements to vertical transfer paths and transferred from these vertical transfer paths. Applicants admitted prior art does not disclose to where the signals from the vertical transfer paths are transferred. It is assumed that such teachings are similar to those disclosed in the prior art references. Applicants admitted prior art does state that "when signal charges corresponding to three pixels which are adjacent in the horizontal direction are mixed to generate complimentary colors, all of the columns are white (w) yellow (Ye) or cyan (Cy)." Applicants note that this section of applicant's admitted prior art teaches the mixing of three (3) light components, red, green and blue which come from three (3) adjacent pixels in the horizontal direction of the honeycomb CCD arrangement. Applicants admitted prior art does not teach the mixing of four (4) color light components in a repetition of red, green, blue and green in the horizontal transfer path. Thus, applicants admitted prior art merely states that three (3) adjacent pixels are mixed at some point to create white, yellow or cyan. It does not teach or suggest mixing signals in a horizontal transfer path. In fact, applicant's admitted prior art does not even refer to a horizontal transfer path, only horizontal adjacent pixels.

Therefore, the combination of Oda, Ishihara and applicants admitted prior art fails to teach or suggest, *inter alia*, a readout control that applies the transfer pulses to said transfer gate such that the order of color signal components respectfully represented by the signal charges substantially corresponding to one row which are inputted to the horizontal transfer path as a

repetition of a red signal component, green signal component, a blue signal component, and a green signal component in every other row and the respective timings at which the red signal component and blue signal component are outputted in odd rows or reverse those in even row; and wherein a plurality of signal charges which are adjacent to each other are mixed in the horizontal transfer path, as recited in claim 1.

Further, the combination of Ishihara, Oda and applicant's admitted prior art fails to teach or suggest, *inter alia*, applying a transfer gate pulses to said transfer gate such that the order of color signal components respectfully represented by the signal charges substantially corresponding to one row which are inputted to the horizontal transfer path is a repetition of a red signal component, agree signal component, a blue signal component, and a green signal component, in every other row and the respective timings at which the red signal component and the blue signal component are outputted in odd rows are reversed to those in even rows; and mixing a plurality of the signal charges which are adjacent to each other, in the horizontal transfer path, as recited in claim 4.

Therefore, in view of the above, applicants respectfully submit that Ishihara alone or in combination with Oda and applicants admitted prior art fails to teach each and every feature of the claims as required. Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

Conclusion

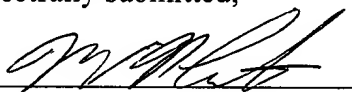
For at least these reasons, it is respectfully submitted that claims 1-5 are distinguishable over the cited art. Favorable consideration and prompt allowance are earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Chad J. Billings (Reg. No. 48,917) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated:

Respectfully submitted,

By 

Michael R. Cammarata

Registration No.: 39,491

BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Rd

Suite 100 East

P.O. Box 747

Falls Church, Virginia 22040-0747

(703) 205-8000

Attorney for Applicant